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## Irrigation.

*Editors of the Agriculturist.*—One object I have in writing to you is, to ask you (as you are supposed to know everything, and to be at all times ready to communicate that knowledge to every one), for information on the subject of irrigating grass land. I have about eight or ten acres of land so situated that a creek might be made to flow over it. It is rather heavy clay, and part of it has only 16 or 18 inches of clay all we come to the solid flag, limestone rock. The water in the creek is rather hard, in consequence, I suppose, of running upon the limestone; is also full of saw-dust from a saw mill on the left lot up the creek. I never saw an irrigated meadow, and as far as my reading extends, it appears to be beneficial only to sandy or loamy soils, when well drained. Now, what I want to know is, would it be beneficial to irrigate such heavy land with such hard water? for I understand that soft water is best. Would the saw-dust be injurious? How near together should the drains be where I could not make them more than 16 or 18 inches deep? Has clay land ever been irrigated with advantage? What work is done in published on irrigation and draining combined, that is adapted to Canada? If you could spare space in the *Agriculturist* to answer these questions, perhaps it might be useful to some of our readers, who may have land that could be irrigated, as well as to

Yours, &c.,  
J. W.

Cambray, August, 1862.

## REMARKS.

Irrigation has been found from time immemorial to act more beneficially on light, porous than on stiff clays, in consequence of the water permeating the lighter soils more freely.

Clay lands, however, have been irrigated with advantage when this operation has been preceded by *under draining*, which when combined with deep or sub-soil ploughing renders irrigation yet more advantageous. Our correspondent's sub-soil being a limestone rock, we presume will readily admit the passage of water through its various interstices; if not, the benefits of irrigation on so shallow a surface soil would be problematical. Impure water is better for irrigation than pure, or rain water. All water found in springs, rivers or lakes is impure; that is, it contains earthy and saline substances in solution. Our correspondent need not therefore be doubtful about his *hard* water, as the hardness is owing to the presence of lime,—carbonate or sulphate,—substances that possess manuring qualities. The saw-dust in the stream would do no harm, unless in too large quantity, when it might interfere with the regular overflow of the water on the surface of the land. It is impossible to give advice about cutting the drains, without knowing how the surface to be irrigated lies, in relation to the stream which supplies the water. They should be deep enough to contain a sufficient quantity of water, and so placed both as to distance and inclination that the fluid can freely and uniformly flow over the whole surface,—Such a surface should therefore be flat, or at least uniformly inclined. If a field inclines different ways it makes it more difficult, sometimes impracticable to irrigate, in a perfect manner. The surface of many of the celebrated